Electronic TUBES

6FV8

TRIODE-PENTODE

DESCRIPTION AND RATING

The 6FV8 is a miniature tube that contains a sharp-cutoff pentode and a medium-mu triode in one envelope. The triode section is designed for use as a vertical-deflection oscillator; the pentode section is for IF amplifier or general-purpose use.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC	6.3		Volts
Heater Current	0.45±6%		Amperes
Heater Warm-up Time*	11		Seconds
Direct Interelectrode Capacitances	With Shield†	Without Shield	
Pentode Section			
Grid-Number 1 to Plate: (Pg1 to Pp), max.	0.01	0.02	μμf
Input: Pg1 to (h+Pk+Pg2+Pg3+i.s.)	5.0	5.0	μμf
Output: Pp to (h+Pk+Pg2+Pg3+i.s.)	3.0	2.0	μμf
Triode Section			
Grid to Plate: (Tg to Tp)	1.8	1.8	μμf
Input: Tg to (h+Tk+Pk+Pg3+i.s.)	2.8	2.8	μμf
Output: Tp to (h+Tk+Pk+Pg3+i.s.)	2.0	1.5	μμf
Pentode Plate to Triode Plate: (Pp to Tp), max.	0.03	0.15	μμf

MECHANICAL

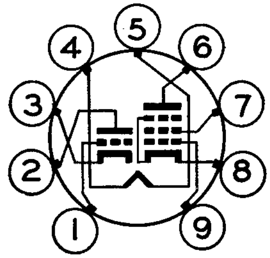
Mounting Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

	Pentode Section	Triode Section‡	
Plate Voltage	330	330	Volts
Screen Supply Voltage	330	—	Volts
Screen Voltage—See Screen Rating Chart			
Positive DC Grid-Number 1 Voltage	0	—	Volts
Peak Negative Pulse Grid Voltage	—	250	Volts
Plate Dissipation	2.3	2.0§	Watts
Screen Dissipation	0.55	—	Watts
DC Cathode Current	—	20	Milliamperes
Peak Cathode Current	—	70	Milliamperes
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid-Number 1 Circuit Resistance			
With Fixed Bias	0.25	—	Megohms
With Cathode Bias	1.0	3.0	Megohms

BASING DIAGRAM

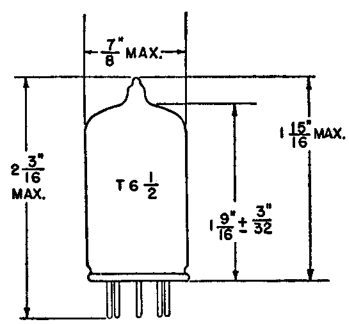


EIA 9FA

TERMINAL CONNECTIONS

Pin 1—Triode Grid
Pin 2—Triode Plate
Pin 3—Triode Cathode
Pin 4—Heater
Pin 5—Heater
Pin 6—Pentode Plate
Pin 7—Pentode Grid Number 2 (Screen)
Pin 8—Pentode Cathode, Grid Number 3, and Internal Shield
Pin 9—Pentode Grid Number 1

PHYSICAL DIMENSIONS



EIA 6-2

Design-maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Pentode Section	Triode Section	
Plate Voltage	125	125	Volts
Screen Voltage	125	....	Volts
Grid-Number 1 Voltage	−1.0	−1.0	Volts
Amplification Factor	——	40	
Plate Resistance, approximate	200,000	5000	Ohms
Transconductance	6500	8000	Micromhos
Plate Current	12	14	Milliamperes
Screen Current	4.0	——	Milliamperes
Grid-Number 1 Voltage, approximate Ib = 20 Microamperes	−9	−9	Volts

* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

† With external shield (EIA 315) connected to Pin 4.

‡ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

§ In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

SCREEN RATING CHART

